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Forage Crops New and Old

Binghamton Seed Company, Binghamton, N. Y.

Japanese Millet

(Crus Galli)

The Japanese Millet is truly a wonderfully vigorous and productive forage plant, although as advertised under the name of "billion dollar grass," rather too much was claimed for it. If sown on rich soil, and cut as often as it reaches the height of three or four feet, it will yield three or four crops in a season, aggregating four to six tons of hay per acre. There is no better crop for soiling, but some of the legumes should be fed with it.

If allowed to stand too long before cutting, the stems will become woody. One of our customers says that last season he sowed Japanese Millet in his orchard and it grew so tall as to shade his apple trees. We do not vouch for the truth of this story; but it grows to the height of six to seven feet. The stems when young are succulent and tender, the whole plant very leafy. It is greedily eaten by all animals, is consumed with less waste than corn fodder, and makes equally as good milk.

Twenty tons of green weight to the acre is not unusual.

It makes good hay, but it is difficult to cure because of its succulence. The price of the seed may appear high, but it is really the least costly of all the Millets, as it stools more abundantly than the others, and less weight of seed is required. Sow ten to fifteen pounds to the acre, broadcast or drilled. There are three varieties of Japanese Millet, "Foxtail," "Broom Corn" and "Barnyard." Japanese Barnyard Millet here described is the only one of the three worth growing.

Owing to wet weather the crop of seed was small last season and the supply will be exhausted early.

RED DAKOTA MILLET.

This plant resembles German Millet. It is said to be a cross between German and Hungarian, combining the good qualities of both. It has been grown very successfully in New York, and in the northwest is greatly liked. It is an enormous producer of hay of fine quality.

Important: Millets, Cow Peas, Soy Beans and Sorghum must not be put in until the ground is thoroughly warmed. Most of the failures with these crops are caused by too early sowing.

Where Red Clover Fails

The value of the legumes as nitrogen gatherers is now generally understood. Red Clover being the best known stands first in importance, but on some soils it does not flourish; on some it winter kills, and it requires a whole year or more as ordinarily sown to reach its full growth.

There are other plants, however, which mature in shorter time, that yield bountiful crops as rich in food value, and as available for plowing under.

The most important and economical of these are Soy Beans, Crimson Clover and Cow Peas.

Of these



JAPANESE MILLET, YEARBOOK U. S. DEPARTMENT OF AGRICULTURE, 1899.

THE SOY BEAN.

will make the heaviest growth of forage between June 1st and September 1st of any of the legumes. It is a decided acquisition for the Middle and Eastern States, and will put thousands of dollars into the pockets of the farmers who grow it. This bean should not be planted until the ground is warm. It may be grown by itself in drills thirty to thirty-six inches apart, the plants six to eight inches apart, covering the seed two to three inches deep, or it may be planted with corn. Place the corn hills three feet apart, and drop the beans in hills between the corn.

If large returns are expected, fertilizers must be used freely. Any good potato fertilizer will give good results, and 500 to 800 pounds per acre is none too much to apply. Cut the corn as soon as it glazes, and remove it from the field as soon as possible. The beans may be mowed off for hay as soon as the pods begin to fill, or may be allowed to stand until ripe.

The product of an average acre of Soys, on properly fertilized soil, will equal in feeding value 100 to 120 bushels of oats. If cut for hay the yield should be three to five tons of dry fodder. If allowed to seed it will yield 40 to 100 bushels of beans, which are as rich in protein as cotton seed meal. They contain twice as much protein and twelve times as much fat as peas; three times as much protein and nearly as much fat as oats, and nearly three and one-half times as much protein and three times as much fat as corn. The beans should be ground before feeding. One-half to one pound of the meal per day is as much as should be fed per head of stock.

Northern grown Soys should be used for

seed to insure maturity of crop. Early Black Soy is the best variety.

Fifteen to twenty pounds required per acre.

RETURN OF CRIMSON GLOVER.

"Crimson Clover has had its day," so say some farmers. But this opinion is given only by those who never learned its value and the conditions necessary to its successful production. It can be made to fill a very important place in a short rotation or for the quick renovation of poor soil. It may be sown with any of the grasses.

It is an Annual. If sown in early spring it will come to blossom within about four months. It should be cut just as the flowers begin to open if for hay, as the hairs on the seed capsule, when ripe, are harsh and may prove injurious if eaten by horses. It may be plowed under or pastured.

It may be sown in early fall, by itself or among corn at the last cultivating, and if it makes a fair growth it will supply the soil with all the nitrogen required for the following crop, even if it winter kills.

Failures with it have resulted from sowing seed in too dry weather, or not putting the seed in deep enough, or from the use of imported seed of low vitality.

This clover, or any seed of its size, when sown in mid-summer should be buried 2 to 3 inches deep in the soil. Evaporation is so rapid at this season that the seed cannot be insured moisture enough to cause germination—much less to sustain the growth of the seedling, if it is scattered upon the surface of the soil and lightly scratched in with a harrow.

On our seed farm it was sown July 1st, with a light seeding of Millet. There was about three



ALFALFA, YEARBOOK U. S. DEPARTMENT OF AGRICULTURE, 1897.

acres of it. A fine growth was made which added materially to the weight of hay when the Millet was cut. It survived the winter, and yielded a good crop of hay the following June.

Grasses sown with it made a permanent meadow. The land was a heavy clay, poorly drained, but well manured for this seeding.

The high price of Red Clover seed this spring will cause many farmers to hesitate about buying. Crimson Clover on the other hand is cheap, and will be more largely used. Sow twenty to twenty-five pounds of seed per acre.

THE COW PEA.

Having lived many years in Georgia, where this pea is the main reliance for late summer pasturage and for soil enrichment, and having there learned its value, we were among the first to try it on northern soil. The crop then grown from seed from away down south was not large. But the gradual introduction northward has given us acclimated seed which will mature in this latitude. In Michigan the vine has made a growth of eight feet with roots five to six feet long. This was probably on a warm, sandy soil. Such growth can hardly be expected here, but the Cow Pea stands next to the Soy Bean as a summer forage crop producer. Cow Pea Hay is nearly as rich in protein as wheat bran. With bran at \$16.00 per ton the pea hay is worth \$13.30, and the nitrogen which is left in the ground by the crop is worth \$6.00.

From one and one-half to two and one-half tons of hay may be produced per acre.

It will flourish on land too poor to grow almost any other crop, although it well repays a free application of fertilizers containing potash and phosphate.

It makes the finest of pasturage for stock of any kind, and is at its best when grass pastures are bare.

Pigs and young stock may be fattened on this pea pasture without grain.

The Peas are best planted in drills twenty to thirty inches apart, and may be put in with a corn drill. The seed should be covered two to three inches deep.

Planting must be deferred until the ground is thoroughly warmed. About one bushel of seed per acre, drilled closely, if for hay; one-half bushel in thirty inch drills, if for seed. If allowed to seed the Cow Pea will produce fifteen to thirty-five bushels per acre.

For hay, the plant should be cut in the milk stage, cured like clover and packed closely in the mow. It makes excellent silage, and for this purpose may be grown with oats, one-third bushel of oats, two-thirds bushels of peas, broadcast, well harrowed in.

The peas will make fine feed in eight weeks from planting. Will keep down the weeds and enrich the land fully as much as a crop of Clover.

The most satisfactory varieties for this latitude are Early Black, Whip-poorwill and Wonderful.

There is a great difference in seed. That from the extreme south is low in price, but almost worthless for northern growing. We supply the best of seed of either of the above named varieties.

ALFALFA.

The merits of this grand, perpetual forage crop are slowly becoming known to our eastern farmers.

It can be grown wherever Red Clover flourishes, and once established will require no renewing.

At Varysburg, N. Y., is a field which was seeded more than thirty years ago which is as vigorous as ever, cutting three good crops per year.

Essential to success are good seed, a clean seed bed, sowing by itself, cutting weeds off when the Alfalfa is about six inches high, cutting whenever the plant begins to bloom. The foregoing applies to haymaking.

Seed is generally saved from the second crop of the season. Western grown seed is more reliable than the imported. An exception to the foregoing is made in favor of Turkestan Alfalfa, which is adapted to arid regions.

Alfalfa sown in early spring will yield a good cutting by September 1st. Sow fifteen to twenty pounds per acre.

SORGHUM.

Sorghum may be grown successfully on almost any farm in New York State. The soil should be well drained, and a sandy or gravelly loam is most suitable. However, any soil not wet and sour will do. Plant later than corn. Drill in rows two and one-half to three feet apart, ten to twenty pounds to the acre, or sow broadcast and harrow in deeply fifty to seventy pounds per acre of Early Amber seed.

Sorghum delights in heat and grows most luxuriantly when pastures are burned out.

It may be pastured or cut for hay. Cattle and horses eat it with great relish, and will scarcely touch any other forage when this is within reach. The hay must be cured for several days. Indeed, no exposure seems to injure it.

DWARF ESSEX RAPE.

For sheep or hog pasture nothing surpasses Rape. It will produce a greater weight of forage



SOY BEANS, YEARBOOK OF U. S. DEPARTMENT OF AGRICULTURE, 1897.

per acre than any other plant, excepting cabbage; but it must be pastured, as the leaves contain too much water for curing or carrying any distance.

One acre will furnish pasturage for forty sheep one month. It may be sown with Field Peas, Cow Peas or Soys, either of which will make the pasturage better. Sow four pounds of seed per acre, broadcast.

SUNFLOWER.

This plant has been regarded as important only for the production of its seed for poultry food, but the plant makes good silage when grown with corn, and is worth growing because of the large amount of potash which it makes available for the succeeding crop. Plant on sod and follow with potatoes. Plant in drills three and one-half feet apart, and leave plants fifteen inches apart. About twenty pounds of seed per acre.

Are the foregoing crops all "best?" Not for every one. But they are all worth considering. Corn, Millet, Sorghum and Rape make succulent soiling food, lacking in protein, which should be supplied by Clovers, Soy Beans, Cow Peas and Alfalfa, or other legumes.

Millets, Sorghum, Soys and Cow Peas are particularly valuable because they flourish under a hot sun when grass fails.

If these forage plants are expected to produce heavy crops they must be planted upon rich soil. The plant cannot make something out of nothing. Better a small piece made very rich than acres of starved and robbed land.

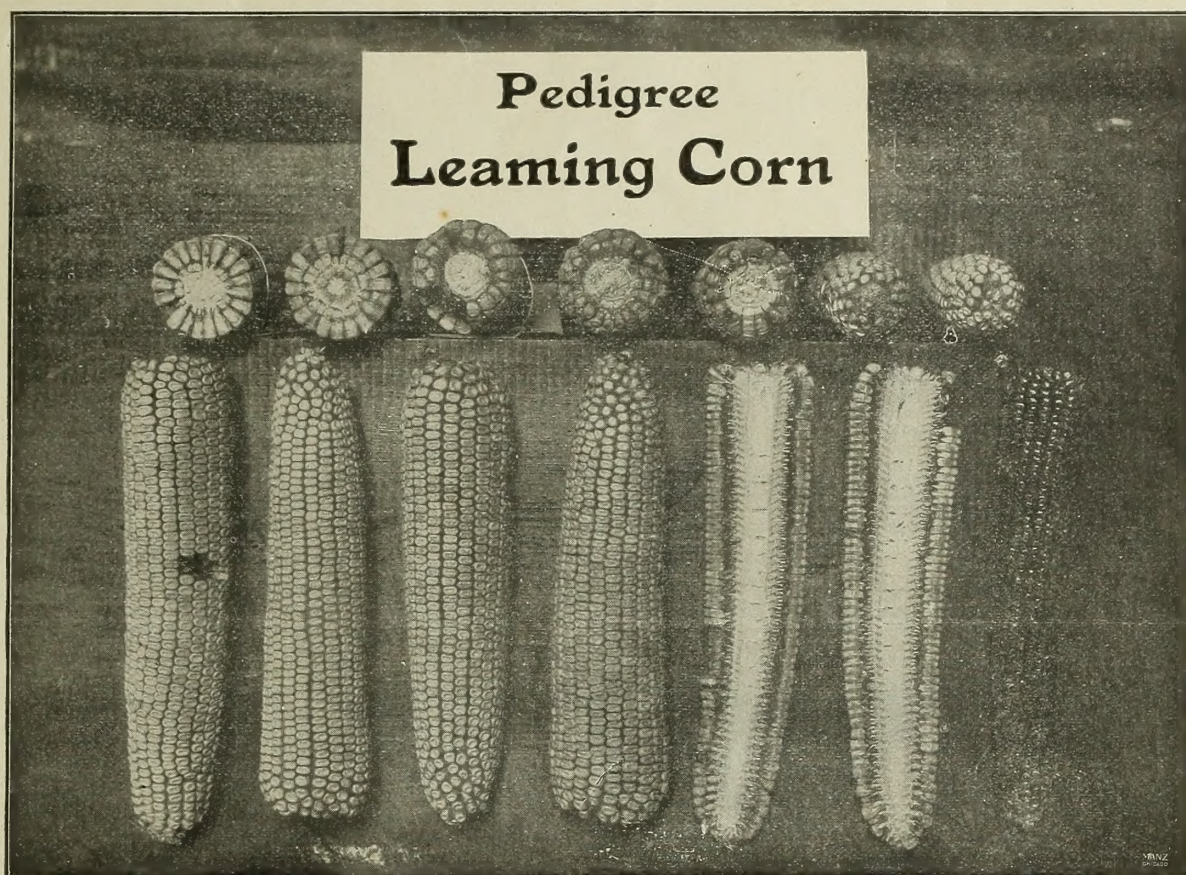
For full information regarding the crops mentioned on this leaflet see "Success With Seeds and Seeding," which will be mailed on request.

King Corn

Not enough importance is given ordinarily to the selection of Seed Corn. If the seed looks right the farmer asks no questions as to the selection or pedigree. We are told that a plain statement of fact about seed will have no weight in these days of extravagant word-painting in the seed trade.

Let us see. Only three or four years ago a movement was set on foot in the western states for the improvement of Corn, and a Corn Growers' Association was formed in Illinois "to encourage and promote the growing of pure bred Corn for seed purposes throughout the State of Illinois." This association has established a bureau of inspection and is establishing distinct types and breeds of Corn.

We have secured from the president of that association a small supply of pure bred pedigree Leaming Corn, selected and bred for deep grain, long ear, well filled tip and butt, uniform rows of kernels and early maturity. Not only is this Corn bred from selected seed and all infertile stalks removed, but each ear of the seed offered is selected



BY COURTESY OF UNIVERSITY OF ILLINOIS.

for perfection of type and carefully cured. The average yield has been brought up to about 100 bushels per acre, sometimes exceeding that amount.

One bushel of this selected fire dried Seed Corn is worth more than ten of the stock ordinarily sold for Leaming, taken haphazard from ordinary field stock of mixed varieties (much of it, indeed, being only No. 3 Yellow Milling Corn). We call this **Pedigree Leaming Corn**.

We have also a new Yellow Dent Corn, **King of the Yellows**, from another grower, which has been carefully bred for nearly twenty years, from selected ears, true to a uniform type. All infertile stalks cut out before tasselling. Seed ears selected and fire dried, and the Corn screened after shelling, all small kernels being rejected.

Also a new White Dent Corn, **King of the Whites**, bred by the same party with the same care.

Either of these high bred Corns will yield 100 bushels to the acre on rich land, make a heavy growth of forage, stalks of moderate height. Maturing in 100 days. Samples of either will be sent on request.

New York, Pennsylvania and the New England States produced in 1901 (United States census) 89,780,000 bushels of Corn, valued at \$59,169,000, an average of thirty-five bushels per acre. If such seeds as we are offering had been used, and only half their usual product realized, that is to say, if the yield, instead of being 100 bushels per acre were but fifty, the increase in crop in these States of fifteen bushels per acre would have amounted to \$25,360,000. You may expect a proportionate increase in your own crop. One bushel of seed will plant four to six acres. If it gives an increase of but ten bushels to the acre the seed would be cheap at \$10 per bushel. Yet the cost is but a trifle above that of ordinary Corn.

THE SUPERIOR VALUE OF BIG SEEDS.

In 1895 the late Gilbert Hicks and John C. Dabney, Botanists to the United States Department of Agriculture, undertook a series of experiments to show the relative value of large and small seeds. The illustrations here given are a part of the ex-



This illustration shows Kafir Corn. The large seeds and plants produced from those marked A. The small seeds and plants, B. In early stage of growth.

FROM THE SUPERIOR VALUE OF LARGE, HEAVY SEED, BY GILBERT H. HICKS AND JOHN C. DABNEY, YEARBOOK U. S. DEPARTMENT OF AGRICULTURE, 1896.

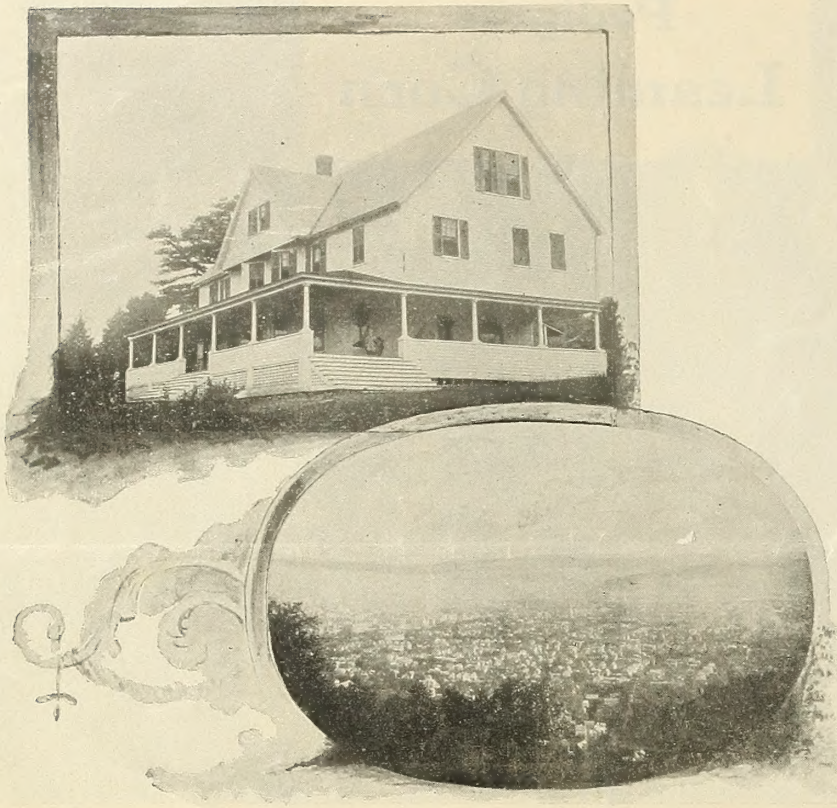
PRICES APRIL 1, 1903.

SUBJECT TO MARKET CHANGES.

	ONE LB.	TEN LBS.	100 LBS.
Alfalfa, Western Grown.....	\$ 20	\$1 75	\$15 00
Alfalfa, Imported.....	20	1 60	14 00
Bromus Inermis.....	15	1 25	12 00
Cabbage, Danish Ball Head (Imported).....	2 50		
Cow Peas, Early Black.....	10	40	3 35
Cow Peas, Whippoorwill.....	10	40	3 35
Cow Peas, Wonderful.....	10	40	3 50
Crimson Clover, Home Grown.....	10	75	7 00
Crimson Clover, Imported.....	10	75	6 00
Hungarian.....	05	40	3 00
Millet, Japanese (Crus Galli).....	10	75	6 00
Millet, Red Dakota.....	05	40	3 00
Millet, German.....	05	40	2 60
Millet, Common.....	05	30	2 40
Millet, Siberian.....	05	40	2 60
Rape, Dwarf Essex.....	10	75	6 00
Sorghum, Early Amber.....	05	40	3 50
Soy Beans, Early Black, N. Y. State Grown.....	10	75	5 00
Soy Beans, Western.....	05	40	3 00
Sunflower, Mammoth Russian.....	05	40	3 50
Vetches, Winter (Hairy or Sand Vetch).....	15	1 25	11 00
Vetches, Spring.....	12	1 00	8 00

	PER BU.
Barley, Two Rowed.....	48 lbs. \$1 10
Barley, Six Rowed.....	48 lbs. 1 15
Barley, Beardless.....	48 lbs. 1 25
Buckwheat, Japanese.....	48 lbs. 90
Buckwheat, Silver Hulled.....	48 lbs. 1 00
Corn, Leaming Pedigree.....	2 50
“ Leaming, from choice selected ears, fire dried.....	1 75
“ Leaming, from choice selected ears.....	1 20
“ Leaming, choice, as usually sold, good stock.....	80
“ King of the Yellows) Pedigree, selected ears, fire dried; 1 75	
“ King of the Whites.) tipped, butted and screened.....	1 75
“ New York State grown, Patterson Dent.....	1 40
“ New York State grown, Yellow Flint.....	1 00
Sweet Corn, Black Mexican.....	3 50
Stowell's Evergreen and other Sweet Corns. Ask for prices.	
Corn, Pride of the North, from choice elected ears, fire dried.....	\$1 20
“ Pride of the North, choice usual stock.....	80
Oats, Siberian, heavy grain, thin husk. Free stooling variety.	70
Onion Sets, Yellow; 32 lbs.....	1 50
Peas, Champion.....	2 60
Peas, Canada Field.....	1 70
Peas, McLean's Advancer.....	3 50
Peas, Telephone.....	3 60
Spring Wheat.....	1 25
Spring Rye.....	1 25

We sell seeds of every kind. Submit your list of wants and let us quote prices.



OUR SEED FARM ON MT. PROSPECT OVERLOOKS THE CITY OF BINGHAMTON.

hibits of this work as shown in the Year Book of the Department for 1896.

In each of these experiments it was found that the larger seed produced larger and more vigorous plants with heavier roots, stems and leaves, and summing up these gentlemen said: "Numerous investigators, both in this country and Europe, have found that heavy Seed Wheat, Oats, etc., produce heavier crops in the field than lighter seed of the same variety sown under similar conditions; and there seems to be no room for doubt *** that the selection of larger or heavy seed will amply repay the planter."

It is in this line of progress that we offer large grained Timothy, Clover, Alfalfa, Corn, Oats and other seeds under our "Giant Prolific" Brand. Give them a trial and report results.

Clover Dodder or Love Vine. A pernicious weed introduced from Europe, presumably in Clover seed. Its seeds germinate in the ground. The young stems swing about until they touch a Clover plant, to which they attach themselves by suckers. The dodder root then dies, and the vine lives upon the juices of the Clover plant, over which it spreads a network of golden threads. The Clover weakens, turns brown and dies. A great patch of Clover will be exterminated in this way by a single dodder.

The seeds are numerous and infested ground can only be rid of this parasite by several years of tillage with other crops.

As early as 1890 dodder prevailed to a serious extent in Missouri, and it is now being heard from in many parts of the United States. Your course toward this new pest should be one of prevention. Buy only pure seeds. We sell them.

Passing through Wayne County, N. Y., last summer, the writer saw an orchard at a little distance

apparently carpeted with flowers of a deep orange color. It was the Orange Hawkweed, "paint brush" or "tassel flower," which had literally taken the earth. Originally brought to us from Europe as a flower novelty, this weed is fast spreading over the northern states. It is propagated by seeds which are too small to attract much attention, as well as by runners, and it appears in some localities so abundantly that it would seem to have been sown with grass seed. Buy only the purest of seeds and avoid bad weeds. We intend that our brands shall stand for purity.

CLOVER DODDER
NOXIOUS WEEDS BY F. V.
COLVILLE, YEAR-
BOOK U. S. DEPART-
MENT OF AGRICUL-
TURE, 1890.



BINGHAMTON SEED CO.

(INCORPORATED)

BINGHAMTON, N. Y.

W. B. CLEVES, PRESIDENT

W. M. CAMP, TREASURER